

OPERATOR

Company: American Warrior, Inc.
 Address: 3118 Cummings Road
 P.O. Box 399
 Garden City, KS 67846
 Contact Geologist: Kevin Wiles
 Contact Phone Nbr: 620-275-2963
 Well Name:
 Location: Sec. 6 - T33S - R19W
 Pool:
 State: Kansas
 API: 15-033-21756-0000
 Field: Bird South
 Country: USA

Scale 1:240 Imperial

Well Name:
 Surface Location: Sec. 6 - T33S - R19W
 Bottom Location:
 API: 15-033-21756-0000
 License Number: 4058
 Spud Date: 3/25/2014
 Region: Comanche
 Drilling Completed: 4/8/2014
 Surface Coordinates: 2305' FSL & 335' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 1871.00ft
 K.B. Elevation: 1882.00ft
 Logged Interval: 4100.00ft
 Total Depth: 6400.00ft
 Formation: Arbuckle
 Drilling Fluid Type: Chemical/Fresh Water Gel
 Time: 07:00
 Time: 01:50
 To: 6400.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 N/S Co-ord: 2305' FSL
 E/W Co-ord: 335' FEL
 Latitude:

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530
 Phone Nbr: 620-617-4091
 Logged By: KLG #136
 Name: Keith Reavis

CONTRACTOR

Contractor: Duke Drilling Company
 Rig #: 5
 Rig Type: mud rotary
 Spud Date: 3/25/2014
 TD Date: 4/8/2014
 Rig Release:
 Time: 07:00
 Time: 01:50
 Time:

ELEVATIONS

K.B. Elevation: 1882.00ft
 K.B. to Ground: 11.00ft
 Ground Elevation: 1871.00ft

NOTES

Evaluation of DST's and electrical logs indicated that the Wait #7 would be commercially non-productive. After electrical logs were ran at RTD of 6200', the operator elected to deepen the well further into the Arbuckle for a total depth of 6400'. Casing was then set into the Arbuckle for utilization as a saltwater disposal well.

A Bloodhound gas detection system operated by Bluestem Environmental was employed on this well. ROP and gas data were imported from the Bloodhound into this report. Gamma ray and caliper curves were imported from the electrical log suite. Electrical log formation tops were consistently around 5 ft. high to formation tops picked from drill time. These curves were not shifted to provide an exact match, but rather, left as recorded in the field.

The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
 Keith Reavis


American Warrior
daily drilling report

DATE	7:00 AM DEPTH	REMARKS
03/29/2014		Geologist Keith Reavis on location @ 1810 hrs, 3698 ft, drilling ahead reset extractor, shale shaker to sample box
03/30/2014	4117	drilling ahead, Lecompton, Heebner, Toronto, Douglas, Lansing
03/31/2014	4656	drilling ahead, Lansing, Marmaton, show and gas kick warrants test
04/01/2014	4900	short trip, TOH w/bit, in with tools, conducting DST #1, complete DST #1, successful test, TIH w/bit, resume drilling, Pawnee
04/02/2014	4950	show in Pawnee warrants test, TOH w/bit, in w/tools, conducting DST #2 successful test, TIH w/bit, resume drilling, Ft. Scott, Cherokee, Miss
04/03/2014	5155	drilling Mississippian, Cowley Facies
04/04/2014	5569	drilling ahead, Cowley, Kinderhook
04/05/2014	5877	drilling Kinderhook, Viola, show and gas kick in Viola warrants test, short trip, TOH w/bit, in with tools, conduct DST #3, successful test TIH w/bit
04/06/2014	5943	back on bottom, resume drilling, Viola, Simpson, Arbuckle
04/07/2014	6201	TD @ 6201 ft., 0110 hrs, ctch, TOH for logs, conduct logging operations complete logging operation, TIH w/bit, resume drilling Arbuckle for disposal
04/08/2014	6400	Second TD 6400 ft @ 0150 hrs, geologist off location 0300 hrs

American Warrior
well comparison sheet

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Structural Relationship	Log	Sub-Sea	Structural Relationship	Sample	Log
	Am. Warrior - Wait #7 2305' FSL & 335' FEL Sec. 6 - T33S - R19W				Am. Warrior - Wait #6x 1800' FSL & 330' FEL Sec. 6 - T33S - R19W				Corsair - Jellison A 1-5 1980' and 540' FWL Sec. 5 - T33S - R19W			
	1882 KB				1887 KB				1887 KB			
Base Heebner	4155	-2273	4150	-2268	4155	-2268	-5	0	4153	-2266	-7	-2
Douglas	4208	-2326	4203	-2321	4207	-2320	-6	-1	4202	-2315	-11	-6
Lansing	4346	-2464	4341	-2459	4344	-2457	-7	-2	4340	-2453	-11	-6
Muncie Creek	4549	-2667	4544	-2662	4547	-2660	-7	-2	4542	-2655	-12	-7
Stark Shale	4679	-2797	4684	-2802	4675	-2788	-9	-14	4670	-2783	-14	-19
Pawnee	4926	-3044	4921	-3039	4920	-3033	-11	-6	4923	-3036	-8	-3
Cherokee	4969	-3087	4966	-3084	4967	-3080	-7	-4	4969	-3082	-5	-2
Mississippian	5057	-3175	5053	-3171	5057	-3170	-5	-1	5057	-3170	-5	-1
Cowley Facies	5413	-3531	5422	-3540	5426	-3539	8	-1	5416	-3529	-2	-11
Kinderhook	5762	-3880	5758	-3876	5756	-3869	-11	-7	5738	-3851	-29	-25
Viola	5851	-3969	5848	-3966	5850	-3963	-6	-3	5832	-3945	-24	-21
Simpson Shale	6106	-4224	6102	-4220	np				6098	-4211	-13	-9
Simpson Sand	6155	-4273	6151	-4269	np				6157	-4270	-3	1
Arbuckle	6161	-4279	6160	-4278	np				6170	-4283	4	5
Total Depth	6400	-4518	6198	-4316	5914	-4027	-491	-289	6249	-4362	-156	46

Drill Stem Test #1

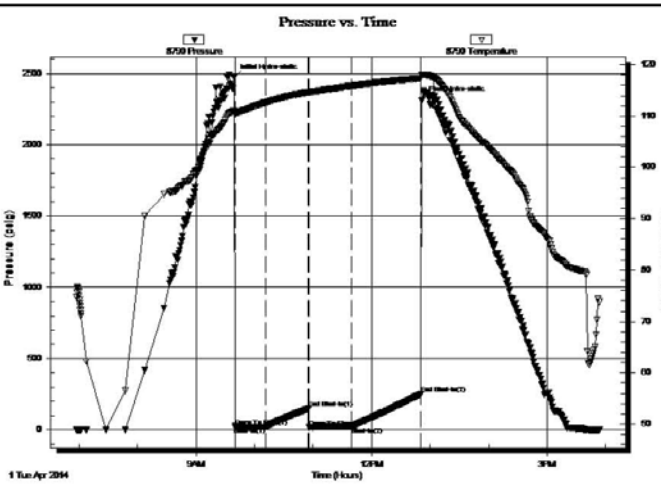
	DRILL STEM TEST REPORT	
	American Warrior Inc. 3118 Cummings Rd. Garden City, KS 67846 ATTN: Keith Reavis	6-33s-19w Comanche Co., KS Wait 7 Job Ticket: 52488 Test Start: 2014.04.01 @ 06:57:26 DST#: 1

GENERAL INFORMATION:

Formation: **Altamont**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 09:40:26
 Time Test Ended: 15:53:11
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Reynolds
 Unit No: 68
 Interval: **4854.00 ft (KB) To 4900.00 ft (KB) (TVD)**
 Total Depth: 4900.00 ft (KB) (TVD)
 Reference Elevations: 1882.00 ft (KB)
 1871.00 ft (CF)
 Hole Diameter: 7.88 inches-Hole Condition: Fair
 KB to GR/CF: 11.00 ft

Serial #: **8790** Inside
 Press@RunDepth: 21.00 psig @ 4860.00 ft (KB)
 Capacity: 8000.00 psig
 Start Date: 2014.04.01 End Date: 2014.04.01 Last Calib.: 2014.04.01
 Start Time: 06:57:31 End Time: 15:53:11 Time On Btm: 2014.04.01 @ 09:38:56
 Time Off Btm: 2014.04.01 @ 12:52:11

TEST COMMENT: IF: Fair blow, 1" - 5"
 IS: No blow
 FF: Fair blow, 1" - 3"
 FSI: No blow


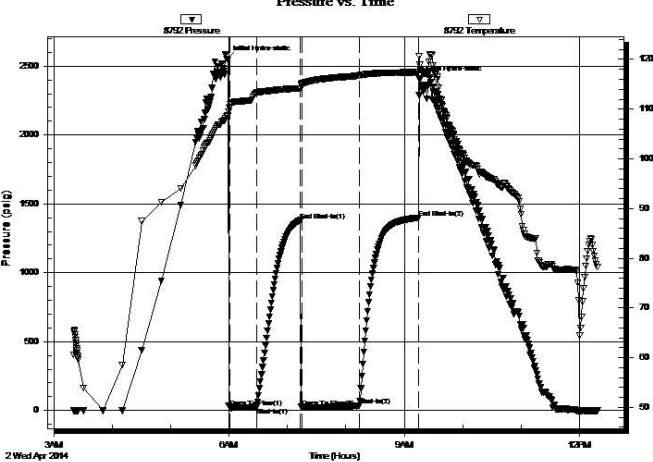


Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2471.94	111.01	Initial Hydro-static
2	22.14	110.60	Open To Flow (1)
33	20.09	112.60	Shut-In(1)
77	147.92	114.64	End Shut-In(1)
77	16.77	114.59	Open To Flow (2)
121	21.00	115.84	Shut-In(2)
192	250.93	117.34	End Shut-In(2)
194	2315.87	118.07	Final Hydro-static


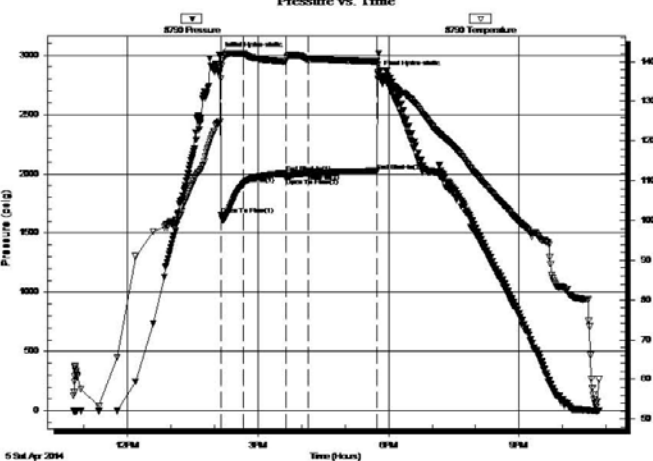
Length (ft)	Description	Volume (bbl)
40.00	VSLI OspidM trco, 99% m	0.20
	320' GIP	

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (m ³ /d)

Drill Stem Test #2

	DRILL STEM TEST REPORT																																					
	American Warrior Inc. 3118 Cummings Rd. Garden City, KS 67846 ATTN: Keith Reavis	6-33s-19w Comanche Co., KS Wait 7 Job Ticket: 52489 DST#: 2 Test Start: 2014.04.02 @ 03:20:09																																				
GENERAL INFORMATION: Formation: Pawnee Deviated: No Whipstock: 0.00 ft (KB) Time Tool Opened: 06:00:39 Time Test Ended: 12:18:54 Interval: 4912.00 ft (KB) To 4950.00 ft (KB) (TVD) Total Depth: 4950.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair Test Type: Conventional Bottom Hole (Reset) Tester: Ryan Reynolds Unit No: 68 Reference Elevations: 1882.00 ft (KB) 1871.00 ft (CF) KB to GR/CF: 11.00 ft																																						
Serial #: 8792 Outside Press@RunDepth: 33.67 psig @ 4913.00 ft (KB) Capacity: 8000.00 psig Start Date: 2014.04.02 End Date: 2014.04.02 Last Calib.: 2014.04.02 Start Time: 03:20:14 End Time: 12:18:54 Time On Btm: 2014.04.02 @ 05:57:24 Time Off Btm: 2014.04.02 @ 09:15:54																																						
TEST COMMENT: IF: Strong blow . BOB @ 8 min. IS: No blow FF: Strong blow . BOB immed. GTS @ 42 min. FSI: NO blow																																						
	PRESSURE SUMMARY <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2551.74</td><td>108.54</td><td>Initial Hydro-static</td></tr> <tr><td>4</td><td>19.90</td><td>110.39</td><td>Open To Flow (1)</td></tr> <tr><td>31</td><td>25.18</td><td>113.34</td><td>Shut-In(1)</td></tr> <tr><td>76</td><td>1380.57</td><td>114.20</td><td>End Shut-In(1)</td></tr> <tr><td>78</td><td>24.30</td><td>114.97</td><td>Open To Flow (2)</td></tr> <tr><td>137</td><td>33.67</td><td>116.71</td><td>Shut-In(2)</td></tr> <tr><td>198</td><td>1398.83</td><td>117.44</td><td>End Shut-In(2)</td></tr> <tr><td>199</td><td>2402.13</td><td>118.87</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	2551.74	108.54	Initial Hydro-static	4	19.90	110.39	Open To Flow (1)	31	25.18	113.34	Shut-In(1)	76	1380.57	114.20	End Shut-In(1)	78	24.30	114.97	Open To Flow (2)	137	33.67	116.71	Shut-In(2)	198	1398.83	117.44	End Shut-In(2)	199	2402.13	118.87	Final Hydro-static
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Drill Stem Test #3

	DRILL STEM TEST REPORT																																						
	American Warrior Inc. 3118 Cummings Rd. Garden City, KS 67846 ATTN: Keith Reavis	6-33s-19w Comanche Co., KS Wait 7 Job Ticket: 52490 DST#: 3 Test Start: 2014.04.05 @ 10:45:35																																					
GENERAL INFORMATION: Formation: Viola Deviated: No Whipstock: 0.00 ft (KB) Time Tool Opened: 14:08:35 Time Test Ended: 22:50:50 Interval: 5840.00 ft (KB) To 5877.00 ft (KB) (TVD) Total Depth: 5877.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair Test Type: Conventional Bottom Hole (Reset) Tester: Ryan Reynolds Unit No: 68 Reference Elevations: 1882.00 ft (KB) 1871.00 ft (CF) KB to GR/CF: 11.00 ft																																							
Serial #: 8790 Inside Press@RunDepth: 2005.21 psig @ 5841.00 ft (KB) Capacity: 8000.00 psig Start Date: 2014.04.05 End Date: 2014.04.05 Last Calib.: 2014.04.05 Start Time: 10:45:40 End Time: 22:50:50 Time On Btm: 2014.04.05 @ 14:06:05 Time Off Btm: 2014.04.05 @ 17:45:35																																							
TEST COMMENT: IF: Strong blow . BOB @ 30sec. IS: Weak surf. blow FF: Strong blow . BOB @ 1min. No GTS. FSI: Strong BB. BOB @ 1hr.																																							
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ROCK TYPES

	Dolprim		Lmst fw<7		shale, grn		Carbon Sh		Ss
	Dolsec		Lmst fw>7		shale, gry		shale, red		

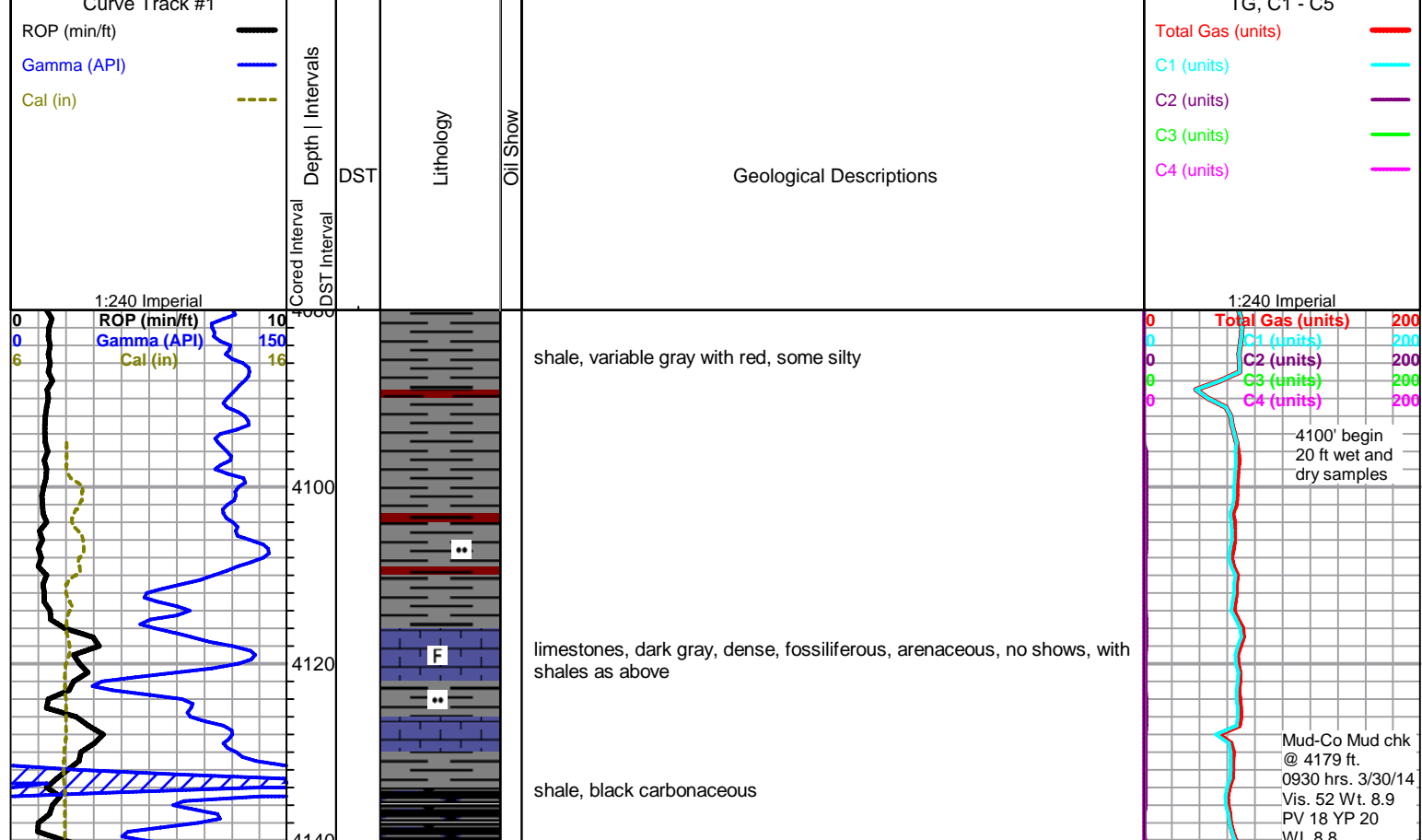
ACCESSORIES

MINERAL — Argillaceous ▲ Chert, dark ▲ Dolomitic P Glaucinite P Pyrite . Sandy ^ Siliceous ** Silty ▲ Chert White Me Mica ■ Argillaceous/Shale	FOSSIL ^ Bioclastic or Fragmental F Fossils < 20% o Oolite / Pellets ⚡ Oomoldic	STRINGER Dolomite Sandstone Siltstone Shale Green shale carb shale	TEXTURE C Chalky
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OTHER SYMBOLS

MISC Daily Report Digital Photo Document Folder Link Vertical Log File Horizontal Log File Core Log File Drill Cuttings Rpt	Oil Show ● Good Show ● Fair Show ● Poor Show ○ Spotted or Trace ○ Questionable Strn D Dead Oil Strn ■ Fluorescence * Gas	DST DST Int DST alt Core tail pipe
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Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)



Mud-Co Mud chk @ 4179 ft. 0930 hrs. 3/30/14 Vis. 52 Wt. 8.9 PV 18 YP 20 WI 8.8

scattered sandstone, gray, quartz, micaceous, fine to very fine grain, fair to poor sorted, fair rounded, slightly friable, no shows

Base Heebner 4155 -2273

gray shales, sandstone and limestone a.a.

as above

as above, some lighter gray limestone

Douglas 4208 -2326

gray to dark gray shales as above, with sandstone as above

shale and sandstone as above

shale and sandstone as above, abundantly micaceous gray siltsontes

Lansing 4346 -2464

poor samples, abundantly sluff from above, some limestones, tan, microcrystalline, fossiliferous, dense, no shows

limestone, light gray to cream, some tan, microcrystalline, fossiliferous, chalky in part, poor visible porosity, no shows

limestone, gray, fossiliferous, arenaceous, with limestone, light gray to cream, microcrystalline, fossiliferous, trace sub-oolitic, some secondary calcite, no shows, scattered mineral fluorescence

limestone, gray, microcrystalline, fossiliferous, fairly dense, no visible porosity or shows, trace mineral fluorescence

limestones, gray to tan, microcrystalline, fossiliferous, some secondary calcite, some bioclastic, poor visible porosity, no shows, trace mineral fluorescence

limestone, cream to gray, microcrystalline, some secondary calcite, fossiliferous, poor visible porosity, chalky in part, no shows, increase chalk in samples

as above, increasing chalk, some tan grainy bioclastic

Muncie Creek 4549 -2667

limestone, gray, microcrystalline, fossiliferous with tan grainy bioclastic, poor visible porosity, no shows or fluorescence

limestone, gray to tan and brown, microcrystalline, fossiliferous, some grainy, some large secondary calcite crystals, with limestone, light gray to white, fossiliferous, chalky, some scattered gray fossiliferous cherts, no shows

limestone, cream to gray, some tan, micro-cryptocrystalline, fossiliferous, chalky to dense, some tan grainy bioclastic, poor visible porosity, no shows, trace mineral fluorescence

limestones, mixed, dense gray cryptocrystalline, fossiliferous, to variable chalky fossiliferous, some dense brown fossiliferous to sub-pelletal, no shows

a.a.

Stark Shale 4679 -2797

shale, black carbonaceous

limestone, tan to gray, microcrystalline, fossiliferous to bioclastic, some scattered small pinpoint porosity, abundant light gray chert, spiculitic, no shows

as above, chalkier, cherts dropping out

Hushpuckney

shale, black carbonaceous

Cake 1/32, pH 10.5, CHL 3000 ppm, Ca 20 ppm, Sol 4.1 LCM 1#, DMC \$3698.50, CMC \$13330.75

re-zero gas detector

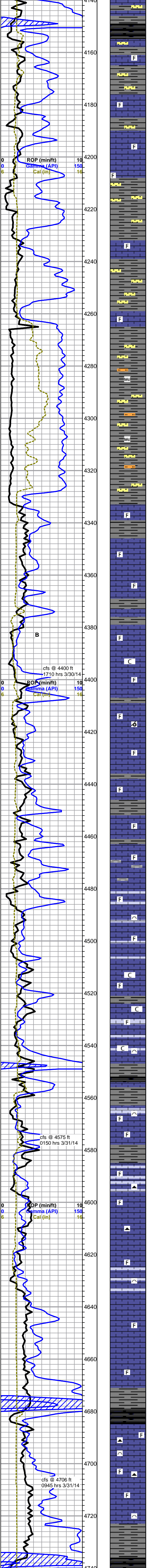
4200' begin 10 ft wet and dry samples

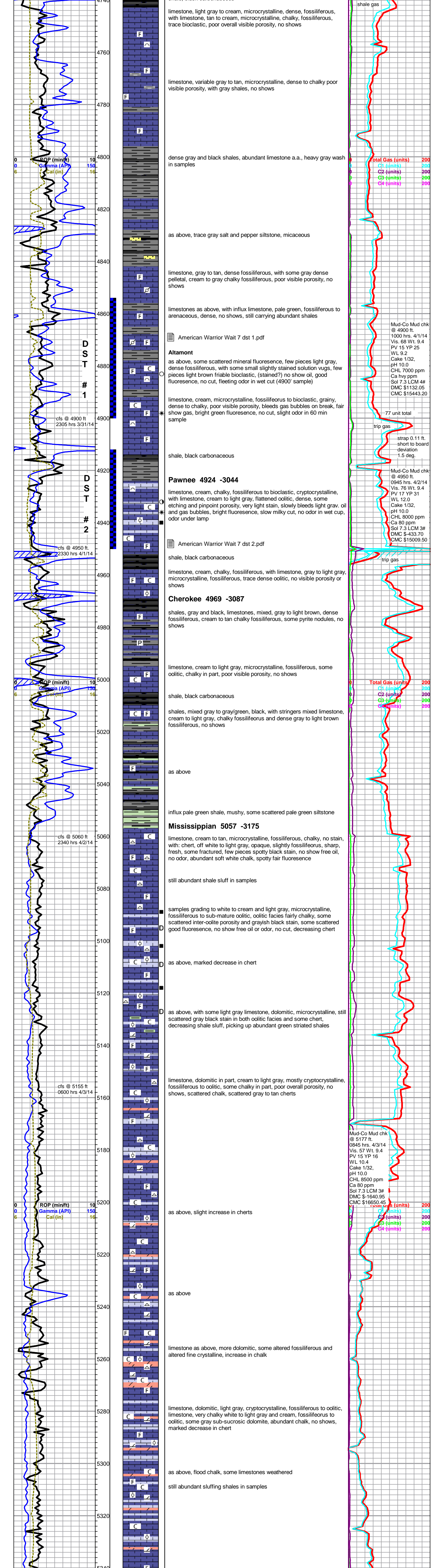
Total Gas (units)	200
C1 (units)	200
C2 (units)	200
C3 (units)	200
C4 (units)	200

Total Gas (units)	200
C1 (units)	200
C2 (units)	200
C3 (units)	200
C4 (units)	200

Total Gas (units)	200
C1 (units)	200
C2 (units)	200
C3 (units)	200
C4 (units)	200

shale gas kick
Mud-Co Mud chk @ 4686 ft. 0845 hrs. 3/31/14, Vis. 51 Wt. 9.3, PV 14 YP 22, WL 10.8, Cake 1/32, pH 10.5, CHL 9000 ppm, Ca 40 ppm, Sol 6.5 LCM 1#, DMC \$980.40, CMC \$14311.15





limestone, light gray to cream, microcrystalline, dense, fossiliferous, with limestone, tan to cream, microcrystalline, chalky, fossiliferous, trace bioclastic, poor overall visible porosity, no shows

limestone, variable gray to tan, microcrystalline, dense to chalky poor visible porosity, with gray shales, no shows

dense gray and black shales, abundant limestone a.a., heavy gray wash in samples

as above, trace gray salt and pepper siltstone, micaceous

limestone, gray to tan, dense fossiliferous, with some gray dense pelletal, cream to gray chalky fossiliferous, poor visible porosity, no shows

limestones as above, with influx limestone, pale green, fossiliferous to arenaceous, dense, no shows, still carrying abundant shales

American Warrior Wait 7 dst 1.pdf

Altamont
as above, some scattered mineral fluorescence, few pieces light gray, dense fossiliferous, with some small slightly stained solution vugs, few pieces light brown friable bioclastic, (stained?) no show oil, good fluorescence, no cut, fleeting odor in wet cut (4900' sample)

limestone, cream, microcrystalline, fossiliferous to bioclastic, grainy, dense to chalky, poor visible porosity, bleeds gas bubbles on break, fair show gas, bright green fluorescence, no cut, slight odor in 60 min sample

shale, black carbonaceous

Pawnee 4924 -3044
limestone, cream, chalky, fossiliferous to bioclastic, cryptocrystalline, with limestone, cream to light gray, flattened oolitic, dense, some etching and pinpoint porosity, very light stain, slowly bleeds light grav. oil and gas bubbles, bright fluorescence, slow milky cut, no odor in wet cup, odor under lamp

American Warrior Wait 7 dst 2.pdf

shale, black carbonaceous

limestone, cream, chalky, fossiliferous, with limestone, gray to light gray, microcrystalline, fossiliferous, trace dense oolitic, no visible porosity or shows

Cherokee 4969 -3087
shales, gray and black, limestones, mixed, gray to light brown, dense fossiliferous, cream to tan chalky fossiliferous, some pyrite nodules, no shows

limestone, cream to light gray, microcrystalline, fossiliferous, some oolitic, chalky in part, poor visible porosity, no shows

shales, mixed gray to gray/green, black, with stringers mixed limestone, cream to light gray, chalky fossiliferous and dense gray to light brown fossiliferous, no shows

as above

influx pale green shale, mushy, some scattered pale green siltstone

Mississippian 5057 -3175
limestone, cream to tan, microcrystalline, fossiliferous, chalky, no stain, with: chert, off white to light gray, opaque, slightly fossiliferous, sharp, fresh, some fractured, few pieces spotty black stain, no show free oil, no odor, abundant soft white chalk, spotty fair fluorescence

still abundant shale sluff in samples

samples grading to white to cream and light gray, microcrystalline, fossiliferous to sub-mature oolitic, oolitic facies fairly chalky, some scattered inter-oolite porosity and grayish black stain, some scattered good fluorescence, no show free oil or odor, no cut, decreasing chert

as above, marked decrease in chert

as above, with some light gray limestone, dolomitic, microcrystalline, still scattered gray black stain in both oolitic facies and some chert, decreasing shale sluff, picking up abundant green striated shales

limestone, dolomitic in part, cream to light gray, mostly cryptocrystalline, fossiliferous to oolitic, some chalky in part, poor overall porosity, no shows, scattered chalk, scattered gray to tan cherts

as above, slight increase in cherts

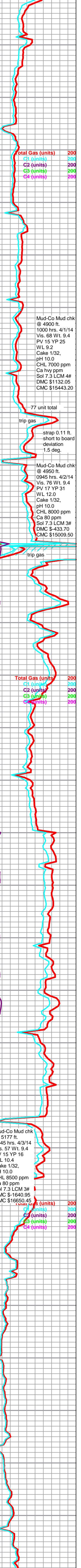
as above

limestone as above, more dolomitic, some altered fossiliferous and altered fine crystalline, increase in chalk

limestone, dolomitic, light gray, cryptocrystalline, fossiliferous to oolitic, limestone, very chalky to light gray and cream, fossiliferous to oolitic, some gray sub-sucrosic dolomite, abundant chalk, no shows, marked decrease in chert

as above, flood chalk, some limestones weathered

still abundant sluffing shales in samples



Total Gas (units) 200
C1 (units) 200
C2 (units) 200
C3 (units) 200
C4 (units) 200

Mud-Co Mud chk @ 4900 ft. 1000 hrs. 4/1/14 Vis. 68 Wt. 9.4 PV 15 YP 25 WL 9.2 Cake 1/32, pH 10.0 CHL 7000 ppm Ca hvy ppm Sol 7.3 LCM 4# DMC \$1132.05 CMC \$15443.20

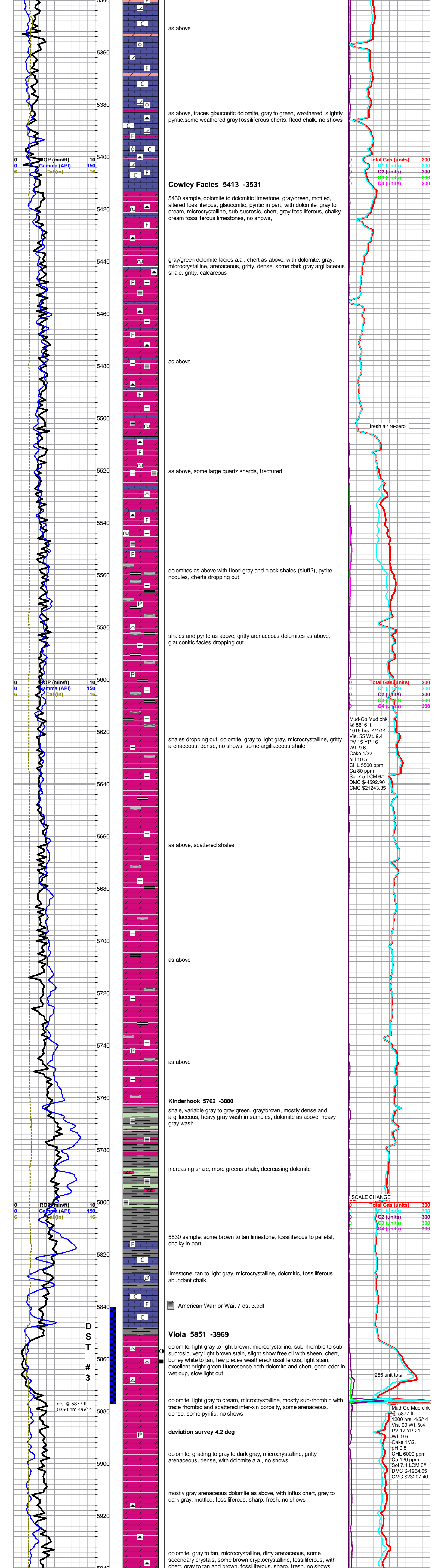
77 unit total
trip gas
strap 0.11 ft. short to board deviation 1.5 deg.

Mud-Co Mud chk @ 4950 ft. 0945 hrs. 4/2/14 Vis. 76 Wt. 9.4 PV 17 YP 31 WL 12.0 Cake 1/32, pH 10.0 CHL 8000 ppm Ca 80 ppm Sol 7.3 LCM 3# DMC \$-433.70 CMC \$15009.50

Total Gas (units) 200
C1 (units) 200
C2 (units) 200
C3 (units) 200
C4 (units) 200

Mud-Co Mud chk @ 5177 ft. 0845 hrs. 4/3/14 Vis. 57 Wt. 9.4 PV 15 YP 16 WL 10.4 Cake 1/32, pH 10.0 CHL 8500 ppm Ca 80 ppm Sol 7.3 LCM 3# DMC \$-1640.95 CMC \$16650.45

Total Gas (units) 200
C1 (units) 200
C2 (units) 200
C3 (units) 200
C4 (units) 200



as above

as above, traces glauconitic dolomite, gray to green, weathered, slightly pyritic, some weathered gray fossiliferous cherts, flood chalk, no shows

Cowley Facies 5413 -5531

5430 sample, dolomite to dolomitic limestone, gray/green, mottled, altered fossiliferous, glauconitic, pyritic in part, with dolomite, gray to cream, microcrystalline, sub-sucrosic, chert, gray fossiliferous, chalky cream fossiliferous limestones, no shows,

gray/green dolomite facies a.a., chert as above, with dolomite, gray, microcrystalline, arenaceous, gritty, dense, some dark gray argillaceous shale, gritty, calcareous

as above

Total Gas (units) 200
C1 (units) 200
C2 (units) 200
C3 (units) 200
C4 (units) 200

fresh air re-zero

as above, some large quartz shards, fractured

dolomites as above with flood gray and black shales (sluff?), pyrite nodules, cherts dropping out

shales and pyrite as above, gritty arenaceous dolomites as above, glauconitic facies dropping out

Total Gas (units) 200
C1 (units) 200
C2 (units) 200
C3 (units) 200
C4 (units) 200

shales dropping out, dolomite, gray to light gray, microcrystalline, gritty arenaceous, dense, no shows, some argillaceous shale

Mud-Co Mud chk @ 5616 ft.
1015 hrs. 4/4/14
Vis. 55 Wt. 9.4
PV 15 YP 16
WL 9.6
Cake 1/32,
pH 10.5
CHL 5500 ppm
Ca 80 ppm
Sol 7.5 LCM 6#
DMC \$-4592.90
CMC \$21243.35

as above, scattered shales

as above

as above

Kinderhook 5762 -3880

shale, variable gray to gray green, gray/brown, mostly dense and argillaceous, heavy gray wash in samples, dolomite as above, heavy gray wash

increasing shale, more greens shale, decreasing dolomite

SCALE CHANGE
Total Gas (units) 300
C1 (units) 300
C2 (units) 300
C3 (units) 300
C4 (units) 300

5830 sample, some brown to tan limestone, fossiliferous to pelletal, chalky in part

limestone, tan to light gray, microcrystalline, dolomitic, fossiliferous, abundant chalk

American Warrior Wait 7 dst 3.pdf

Viola 5851 -3969

dolomite, light gray to light brown, microcrystalline, sub-rhombic to sub-sucrosic, very light brown stain, slight show free oil with sheen, chert, boney white to tan, few pieces weathered/fossiliferous, light stain, excellent bright green fluorescence both dolomite and chert, good odor in wet cup, slow light cut

255 unit total

dolomite, light gray to cream, microcrystalline, mostly sub-rhombic with trace rhombic and scattered inter-xtn porosity, some arenaceous, dense, some pyritic, no shows

Mud-Co Mud chk @ 5877 ft.
1200 hrs. 4/5/14
Vis. 60 Wt. 9.4
PV 17 YP 21
WL 9.6
Cake 1/32,
pH 9.5
CHL 6000 ppm
Ca 120 ppm
Sol 7.4 LCM 6#
DMC \$-1964.05
CMC \$23207.40

deviation survey 4.2 deg

dolomite, grading to gray to dark gray, microcrystalline, gritty arenaceous, dense, with dolomite a.a., no shows

mostly gray arenaceous dolomite as above, with influx chert, gray to dark gray, mottled, fossiliferous, sharp, fresh, no shows

dolomite, gray to tan, microcrystalline, dirty arenaceous, some secondary crystals, some brown cryptocrystalline, fossiliferous, with chert, gray to tan and brown, fossiliferous, sharp, fresh, no shows

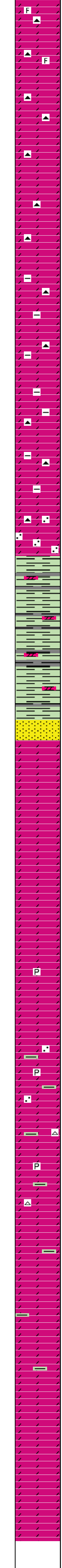
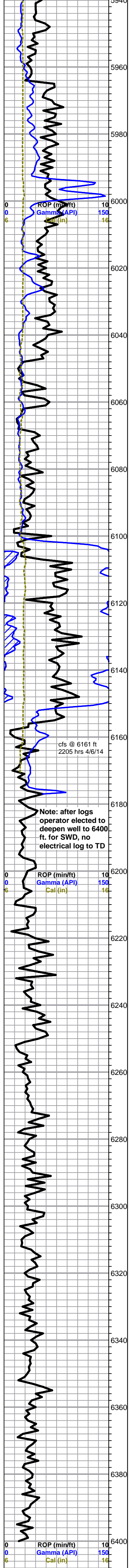
ROP (min/ft)
Gamma (API)
Cal (in)

ROP (min/ft)
Gamma (API)
Cal (in)

ROP (min/ft)
Gamma (API)
Cal (in)

cfs @ 5877 ft
0350 hrs 4/5/14

DST # 3



dolomite, mostly brown, some tan and light gray, microcrystalline, mostly arenaceous with some scattered rhombic, poor visible porosity, abundant brown, tan and gray fossiliferous cherts, sharp, fresh, no shows

as above

as above, trace dolomite argillaceous

dolomite, brown and gray, argillaceous to arenaceous, dirty, gritty, with chert, brown and gray, fossiliferous, sharp, fresh no shows

as above, with some gray to tan mottled dolomite, microcrystalline, sub-rhombic, poor visible porosity, no shows

as above with dolomite, blue gray to brown, micro-fine crystalline, rhombic to sub-rhombic, some intercrystalline porosity, gray facies very sandy, nearly a sandstone, well rounded fine grains, shale and mica inclusions, no shows or fluorescence

Simpson Shale 6106 -4224
shale, green, gray, gray-green, silty in part, still carrying abundant dolomites as above

Simpson Sand 6155 -4273
sand, qtz, fine to very fine grain, fair sorted, well rounded, well cemented, poor visible porosity, barren, no fluorescence

Arbuckle 6161 -4279
dolomite, cream to light gray, microxn, some slight porosity, spotty fluorescence, 1 piece good fluorescence with sheen on break, no odor in wet cup

dolomite, light gray, microcrystalline, sub-rhombic to sub-sucrosic, with brown, microcrystalline, recrystallized fossiliferous in part, poor overall porosity, some scattered yellow fluorescence, no shows or odor

as above

Rotary TD 6201ft. @ 0110 hrs, 4/7/14
Pioneer Log TD 6398 ft
Complete Logging Operations 1200 hrs 4/8/14

deviation survey 2.4 deg

dolomite, gray to blue-gray, dense, micro-cryptocrystalline, some sub-rhombic, trace pyritic, dolomite, cream, microcrystalline, sub-rhombic, some scattered porosity, dolomite, brown to tan, microcrystalline, sucrosic to sub-sucrosic, no shows

dolomite, mixed as above, with dolomite, light gray, sandy, and blue/gray, large recrystallized rounded internal rhombs, pyritic, poor overall visible porosity, no shows - abundant green waxy shales

mixed dolomites as above, with some light gray microcrystalline rhombic, friable, no shows, influx gray chert

dolomites, mixed, gray, blue/gray, tan and brown, cryptocrystalline lithographic, to microcrystalline rhombic and sub-sucrosic, some intercrystalline porosity, decreasing shales

as above with some scattered brown dolomite, microcrystalline with fine crystalline internal rhombs, some recrystallized, some rounded rhombs, scattered porosity, no shows

grades to dolomite, white to gray and pale green, micro-fine crystalline, some fair rhombic, some recrystallized, poor visible porosity, no shows - shales drop out

as above

Rathole TD (driller measurement) 6400 ft - 0150 hrs 4/8/14

Mud-Co Mud chk @ 5973 ft. 0900 hrs. 4/6/14
Vis. 50 Wt. 9.4
PV 15 YP 15
WL 9.6
Cake 1/32,
pH 10.5
CHL 6000 ppm
Ca 120 ppm
Sol 7.5 LCM 6#
DMC \$1484.30
CMC \$24691.70

Total Gas (units)	300
C1 (units)	300
C2 (units)	300
C3 (units)	300
C4 (units)	300

Mud-Co Mud chk @ 6201 ft. 0915 hrs. 4/7/14
Vis. 55 Wt. 9.4
PV 15 YP 15
WL 9.6
Cake 1/32,
pH 10.5
CHL 6000 ppm
Ca 160 ppm
Sol 7.5 LCM 8#
DMC \$1735.95
CMC \$26427.65

Total Gas (units)	300
C1 (units)	300
C2 (units)	300
C3 (units)	300
C4 (units)	300

Total Gas (units) 300
C1 (units) 300
C2 (units) 300
C3 (units) 300
C4 (units) 300

